

**Newton Series II**

**CAMBRIDGE  
SOUNDWORKS®**

**P 205**

**200 Watt Powered Subwoofer User Manual**

Cambridge SoundWorks, Inc.  
120 Water Street  
North Andover, MA 01845  
1-800-FOR-HIFI  
[cambridgesoundworks.com](http://cambridgesoundworks.com) or [hifi.com](http://hifi.com)



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product

## WARNING

### DO NOT OPEN

TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SUBWOOFER'S COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

## AVISIQUE

POUR EVITER TOUT RISQUE DE CHOC ELECTRIQUE, NE PAS DEMONTER LE COUVERCLE DU HAUT PARLEUR. AUCUN ENTRETIEN DES PIECES INTERIEURES N'EST REQUIS. TOUT SERVICE D'ENTRETIEN NE DOIT ETRE EFFECTUE QUE PAR DU PERSONNEL D'ENTRETIEN QUALIFIE.

## READ AND HEED IMPORTANT SAFETY WARNING ON BACK OF SUBWOOFER ENCLOSURE

### CAUTION:

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, INSERT FULLY.

### ATTENTION:

POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

### IMPORTANT NOTICE:

THE SERIAL NUMBER FOR THE SUBWOOFER IS LOCATED ON THE SUBWOOFER'S CONTROL PANEL. PLEASE WRITE THIS NUMBER DOWN AND KEEP IT IN A SECURE AREA. THIS IS FOR YOUR SECURITY.

## **IMPORTANT SAFETY INSTRUCTIONS**

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**READ INSTRUCTIONS** – All safety and operating instructions should be read before the subwoofer is operated.

**RETAIN INSTRUCTIONS** – The safety and operating instructions should be retained for future reference.

**HEED WARNINGS** – All warnings on the subwoofer and in the operating instructions should be adhered to.

**FOLLOW INSTRUCTIONS** – All operating and use instructions should be followed.

**CLEANING** – Unplug the subwoofer or control module from the wall outlet or other power source before cleaning. Use a damp cloth for cleaning.

**ATTACHMENTS** – Do not use any adapters or attachments not recommended by Cambridge SoundWorks as they may cause hazards.

**WATER AND MOISTURE** – Do not use the subwoofer or control module near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool or other similar areas.

**ACCESSORIES** – Do not place the subwoofer on an unstable cart, stand, tripod, bracket, or table. The subwoofer may fall, causing serious injury to a child or adult and serious damage to the product.

**VENTILATION** – Slots, openings and metal fins in the cabinet are provided for ventilation, to ensure reliable operation of the subwoofer and to prevent it from overheating. These areas must not be blocked or covered such as by placing the product on a bed, sofa, very deep pile rug, or other similar surface. The subwoofer should not be placed in a built-in installation such as a bookcase or rack.

**HEAT** – The subwoofer should be situated away from heat sources such as radiators, heat registers, stoves, and other products (including amplifiers) that produce heat.

**POWER SOURCES** – The subwoofer or control module should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.

**POLARIZATION** – The subwoofer is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

**POWER-CORD PROTECTION** – The AC power cords should be routed so that they are not likely to be walked on. No object should bring weight to bear on to the AC power cords.

**LIGHTNING** – For added protection for the subwoofer or control module during a lightning storm, or when it is left unattended and unused for long periods of time, unplug them from the wall outlet. This will prevent damage to the subwoofer or control module due to lightning and power-line surges.

**OVERLOADING** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

**OBJECT AND LIQUID ENTRY** – Never use probes of any kind to reach into the subwoofer or control module as they may touch dangerous voltage points or short parts that could result in a fire or electric shock. Never spill liquid of any kind on the subwoofer, control module or control module power supply.

**SERVICING** – Do not attempt to service the subwoofer or control module yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer to servicing to qualified service personnel.

**DAMAGE REQUIRING SERVICE** – Unplug the subwoofer or control module from the wall outlet or other power source and refer servicing to qualified service personnel under the following conditions:

- a) When the power-cord or plug is damaged.
- b) If liquid has been spilled, or objects have fallen into the subwoofer or control module.
- c) If the subwoofer or control module has been exposed to rain or water.
- d) If the subwoofer or control module does not operate normally by following the operating instructions; or exhibits a distinct change in performance.
- e) If the subwoofer or control module has been dropped or damaged in any way.

**REPLACEMENT PARTS** – When replacement parts are required, be sure the service technician uses replacement parts specified by Cambridge SoundWorks or have the same characteristics as the original part. Substandard substitutions may result in fire, electric shock, or other hazards.

**SAFETY CHECK** – Upon completion of any service or repairs to the subwoofer or control module, ask the service technician to perform safety checks to determine that the subwoofer or control module is in proper operating condition.

## **CONTENTS**

- 1.** Powered subwoofer enclosure
- 2.** AC power cable
- 3.** Speaker wire connector plug  
(attached to subwoofer)
- 4.** Rubber feet
- 5.** Floor spikes with lock nuts

## **INSPECTING FOR DAMAGE**

Examine each part carefully for shipping damage. If there is any, do not install or use the system. Return the subwoofer to the store or merchant where you made the purchase or call Cambridge SoundWorks at 1-800 FOR-HIFI (1-800-367-4434) for assistance.

## **SPECIFICATIONS**

### **P205:**

Dimensions: 13 3/4" H x 12" W x 13 1/2" D

Weight: 35 pounds

Power Output: 200 Watts RMS from 20-200 Hz with  
less than .1% THD

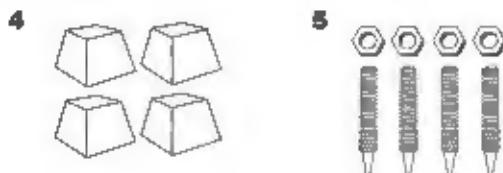
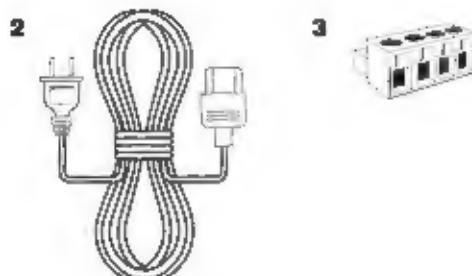
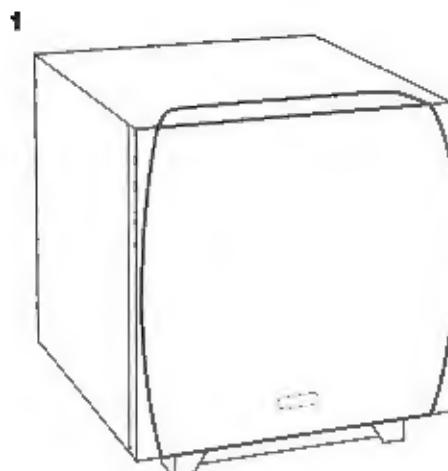
Dynamic Headroom: >3dB

Frequency Response: 25-200 Hz ± 3dB

Crossover Frequency Range: 60 Hz-200 Hz

Woofer Size: Nominal 10" diameter

Enclosure Type: Acoustic Suspension



# OPERATING CONTROLS

## 1. -3dB switch:

This switch adjusts the overall contour of the subwoofer's response. The **25 Hz** setting provides the deepest bass extension and the most accurate response. We recommend this setting for high accuracy music systems. The **35 Hz** setting provides higher maximum loudness at the expense of some bass extension. This will allow dramatic special effects in movies to be played louder.

## 2. PHASE:

The phase switch compensates for placement differences between the main speakers, the subwoofer and your listening position. This switch affects the relatively narrow range of notes where the main speakers and the subwoofer "overlap." Adjust it for maximum output in this narrow range (not for "best sound"). The effect this control has can be subtle.

## 3. LOW PASS:

Even though a subwoofer only produces "bass notes," the upper end of its range should be tailored to blend well with your main speakers. The subwoofer should not produce any bass your main speakers can produce. The LOW PASS control sets this limit. The lowest setting (60 Hz) should be used with large main speakers. Its middle settings should be used with small floorstanding speakers or large bookshelf speakers. Its highest setting should be used with small speakers (see table on page 14).

## 4. LEVEL:

This control sets the overall output level of the subwoofer. Adjust it for the best overall blend with your main speakers, after you have set the other controls.

## 5. ON/Standy/Limit Indicator:

This indicator glows **red** when the subwoofer is in Standby. The subwoofer uses very little power in this mode. It turns on rapidly whenever the main system is used. This indicator glows **green** while the subwoofer is On and operating.

## 6. LINE INPUT:

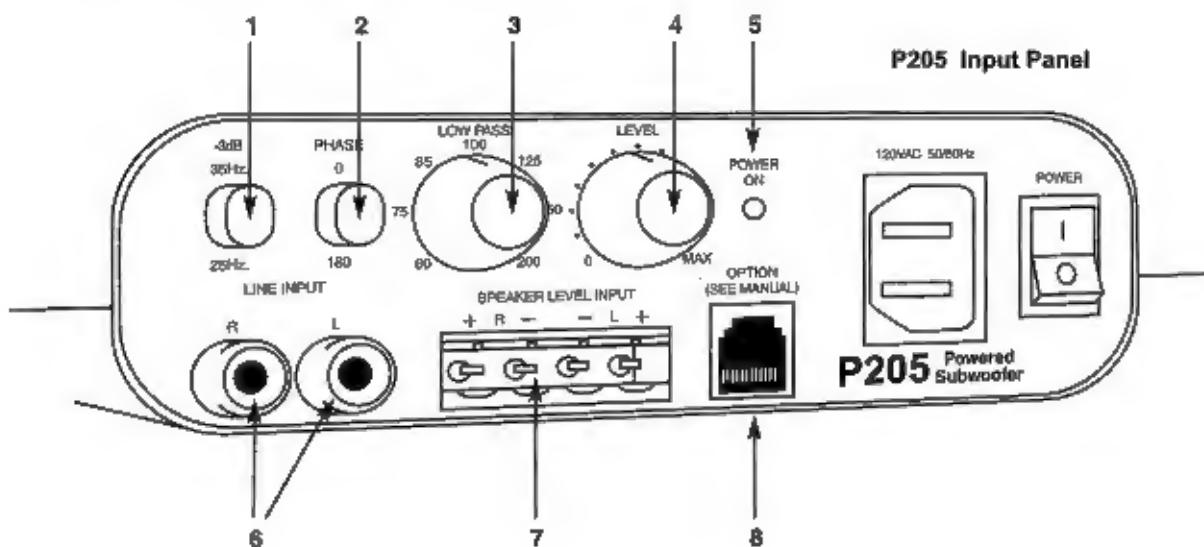
Normally, the Right (R) and Left (L) signal outputs from a preamp will connect to the to **RIGHT IN** and **LEFT IN**. A mono input, as from a receiver **SUB OUT**, can connect to either input.

## 7. SPEAKER LEVEL INPUT:

Connect the Right and Left speaker outputs of a **stereo receiver/amplifier** to the plug that inserts here.

## 8. Option:

The **OPTION** jack is provided for connection to future accessories.



## PLACEMENT

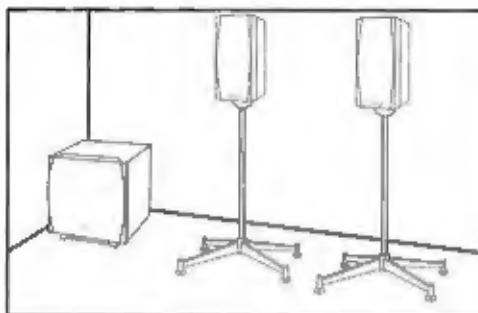
The subwoofer enclosure should be placed on the floor. Its location in the room affects its output. The output increases the closer the subwoofer is placed to the intersection of walls and floors (see diagrams).

**Some Advantages Of Corner Placement:** Placing a subwoofer in or near the corner of a room increases its maximum output. Corner placement also provides the most consistent output from deep bass to upper bass. Since corner placement "forces" more of the bass energy toward the center of the room, you can operate the subwoofer at a lower overall gain setting than if it was in the middle of a wall. This reduces the amount of bass someone in a nearby room will hear.

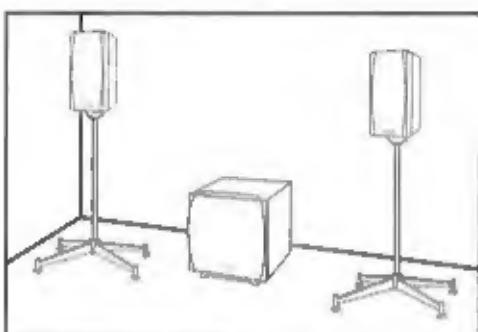
**Other locations:** Any position in a room can be used, but a position away from the intersection of two room surfaces will both reduce the maximum output of the subwoofer and make the output from deep bass to upper bass less even.

For most places in a room, the orientation of the subwoofer is not critical. If you place the subwoofer directly in a corner, you may find that "diagonal" placement (the grille panels forming a 45 degree angle with both side walls) reduces wall-shaking.

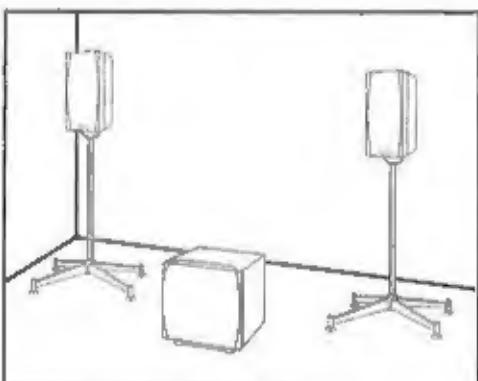
We realize many "real world" factors affect where you choose to place a subwoofer and corner placement may not be practical. The highly flexible controls on the subwoofer allow you to effectively compensate for uneven output due to placement.



Maximum Bass Output



Moderate Bass Output



Least Bass Output

**Ventilation:** Because the subwoofer enclosure panel

 requires adequate ventilation, do not place it inside a wall unit or any piece of furniture unless precautions are taken to assure adequate ventilation. Also, don't place it near heat sources or against furniture, draperies or other material that will block the free flow of air around and from underneath the subwoofer.

## INSTALLING CARPET SPIKES

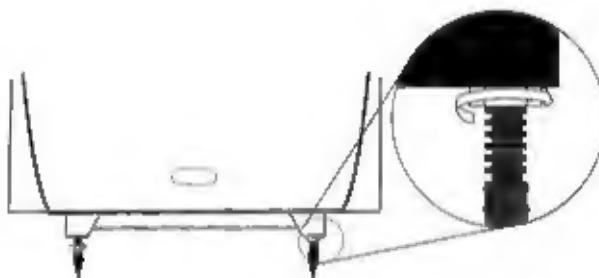
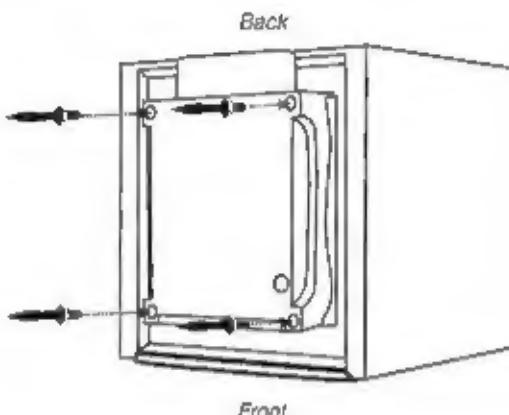
### Improving Stability With Carpet Spikes

The powered subwoofer has four soft feet for level, stable orientation on any flat surface and tightly woven carpets. Installing and adjusting the four carpet spikes can level the speaker and improve its stability on thick carpeting. The spikes penetrate a carpet and carpet pad and transfer the weight of the speaker directly to the floor surface.

**Note:** These carpet spikes will leave four small but distinct puncture holes in wooden floors and could damage other surfaces, especially if the subwoofer is dragged after they are installed. Do not use these spikes if you are concerned about the appearance of the floor beneath the carpet.

Carpet spike installation consists of installing, adjusting, and locking the spikes. Determine the final position of the subwoofer before installing the carpet spikes, since repositioning a subwoofer is awkward once the spikes are installed.

- 1) Screw one locknut about half-way down the shank of each carpet spike.
- 2) Prepare a soft surface on the floor in front of the subwoofer's final position. Carefully upend the subwoofer so that its front panel (the one with the logo) rests on the soft surface.
- 3) Screw each carpet spike into one of the four threaded fittings. Leave a small gap between the locknut and the fitting.
- 4) Replace the subwoofer at its proper listening position. Adjust the spikes by lifting the subwoofer on the appropriate side and rotating the spikes until the speaker is level and stable.
- 5) Hand tighten each locknut (or use a wrench) against the base to secure the carpet spike, taking care not to rotate the spike.



# CONNECTIONS

**About your audio components:** You can connect the P205 to a *receiver*, an *integrated amplifier*, a *preamplifier/power amplifier combination* or other audio component with line level or speaker level outputs. For brevity, this guide will usually refer only to a "receiver," but the instructions will also apply to any audio component.

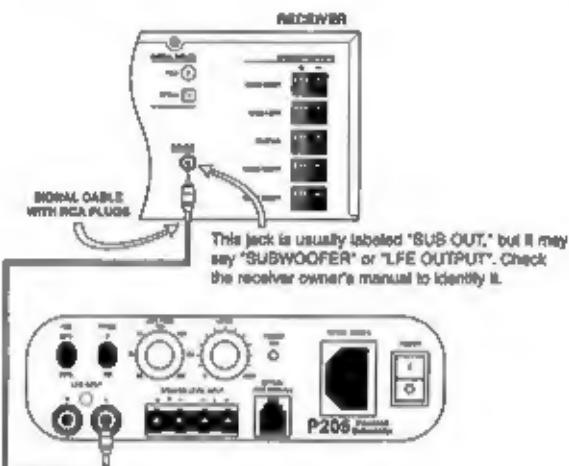
You can connect the P205 to a receiver's line level output (one or two RCA jacks) or its speaker level outputs, but not both. Always disconnect the AC power from the subwoofer enclosure before making or changing any connections.

## Line Level Connections

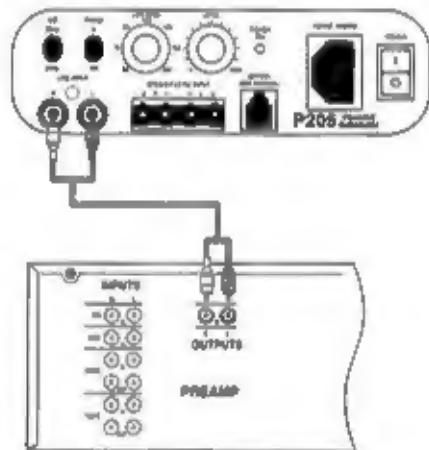
For most line level connections, you need a signal cable with an RCA plug at both ends. Connect the P205 in the following ways:

**Dolby Digital® or Dolby Surround® receiver:** Connect a mono signal cable from the RCA jack output labeled **SUB OUT** (or possibly labeled LFE or just SUB) on the receiver to either **LINE INPUT** on the subwoofer.

**Preamplifier/power amplifier:** Connect a stereo signal cable with RCA plugs at each end from the **LEFT** and **RIGHT** preamp outputs to the **L** and **R LINE INPUTS** on the subwoofer.



Dolby Digital and Dolby Surround receiver  
Line level connector



Preamplifier/Power amplifier level connectors

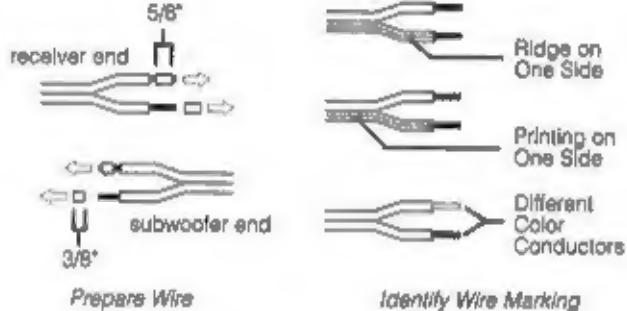
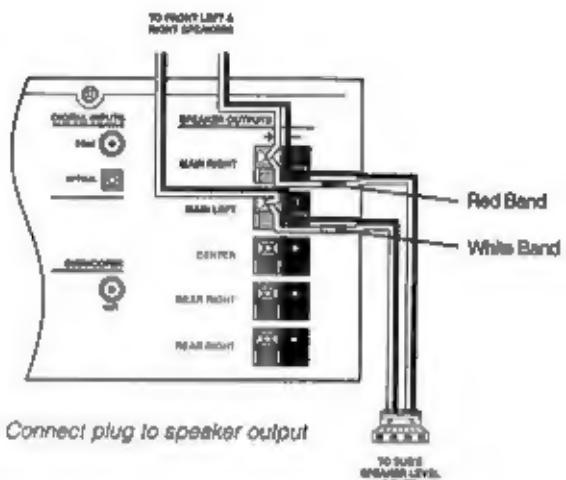
## Speaker Level Connection

If your receiver does not have a line-level audio signal output or if you wish to bypass this output, you need to connect your receiver's speaker outputs to the speaker level inputs of the subwoofer.

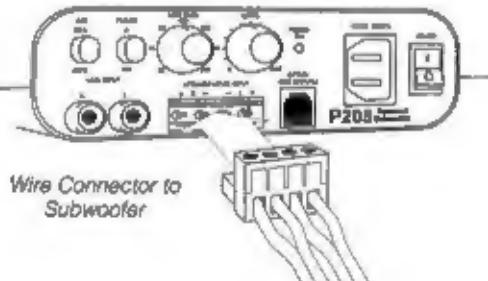
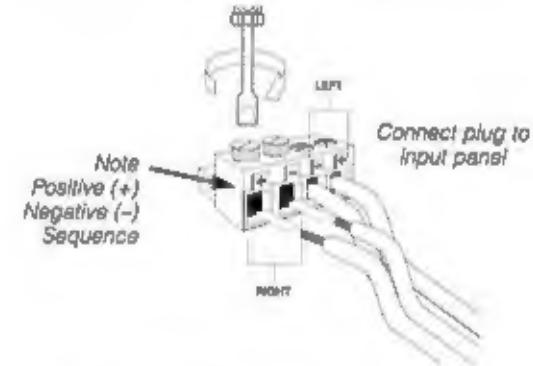
First, prepare two suitable lengths of speaker wire. You can use lightweight (18-22 gauge) speaker wire because this wire will not carry any significant electric current. Also, wire larger than 18 gauge will be somewhat harder to connect in tandem with another speaker wire.

Strip off  $5/8"$  of insulation from one end of each speaker wire. Strip off  $3/8"$  of insulation from the other end. This end connects to the Speaker Wire Connector Plug.

Connect the speaker wires to your receiver's Left and Right speaker outputs (Front Left and Front Right speaker outputs of a multi-channel receiver). You will have to "parallel connect" these wires with the main speaker wires (see diagram). Positive speaker output terminals will usually be colored red and have a "+" symbol. Negative speaker output terminals will usually be colored black and have a "-" symbol. Connect the other end of the wire to the green speaker connector plug. Remove the plug from the subwoofer for easier access to the screws.



Identify Wire Marking



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To insure you connect the wires properly (positive to positive, negative to negative), note which of each speaker wire's two conductors is "marked". This marking may be a ridge in the insulation, different colored conductors or printing on only one side. Use the marked side of the speaker wire to connect the positive speaker terminals. Use the other wire for the negative terminals.

Using a small flat bladed screwdriver, loosen the four set screws inside the Speaker Wire Connector plug.

Following the markings on the subwoofer's connection panel (for Right positive, Right negative and so on), insert the correct wires into the plug's openings. Tighten each set screw to hold the wires in place.

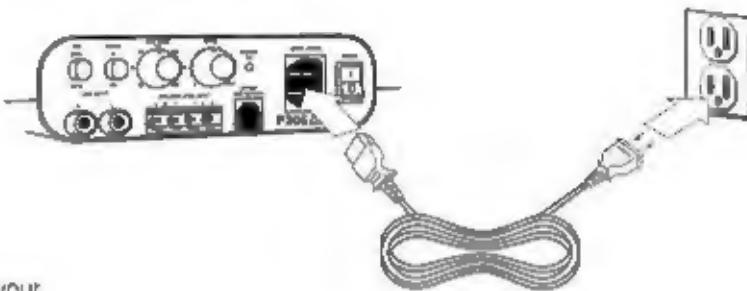
Finally, insert the Speaker Wire Connector plug into the SPEAKER LEVEL INPUT jack on the input panel.

## FINAL SETUP

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### Power Connections

Insert the subwoofer enclosure's power cable into the receptacle on the subwoofer enclosure's input panel. Then Insert the AC plug into an AC outlet. Turn the subwoofer enclosure's power switch **ON**.



### Test Your Connections

Once all connections have been made, test your sound system to verify the subwoofer produces bass output. Advance the Bass Level control to the 10 o'clock position. Turn on your receiver and play a CD or movie you know to have significant bass. Listen for subwoofer output as you increase your receiver's volume control up to a moderate volume level. If you don't hear any output from the subwoofer, slowly advance the subwoofer's Bass Level. If you don't get any output, recheck your connections.

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## **Adjusting For Best Performance**

We recommend you adjust the P205 according to the following sequence:

- 1.** Set the **LOW PASS** control.
- 2.** Set the **LEVEL** control by ear.
- 3.** Set the **PHASE** switch by ear.
- 4.** Set the **-3dB** switch by ear.
- 5.** Reset the **volume** control (if necessary).

### **Adjustment:**

- 1.** Adjust the **LOWPASS** control according to the Low Pass Control Settings Table on the opposite page.
- 2.** Set the subwoofer's **LEVEL**. Use some of your favorite program material (video or audio). Adjust the output level until you are happy with the overall bass balance.
- 3.** **PHASE** control adjustment: Play some program material with constant, regular bass (like a kick drum beat). Switch **PHASE** in and out and listen for an increase in output. The output difference you hear could be anything from negligible to significant. However large the difference, leave this control set where it has the maximum effect.

If you do not hear any difference in the bass output, leave the **PHASE** switch in the "0" (out) position.

- 4.** If you find the increase in output contributed by the phase adjustment is more than you care for, reduce the volume control setting to bring the subwoofer output back in balance.

**Congratulations!** You have now adjusted the subwoofer to blend well with your main speakers.

- 5.** **The -3dB switch:** For recordings with deep bass content, setting the **-3dB switch** to 25 Hz will produce highly accurate and room-shaking results as it reveals near-infrasonic signals. There are only two main reasons to set this control above 25 Hz – the very deep bass bothers people in adjoining rooms or the overall output level isn't as strong as you would like.

## FREQUENCY ADJUSTMENT

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With a surround processor:

When using the subwoofer output of a surround processor, set the subwoofer's frequency control fully clockwise.

Your surround processor has a variety of adjustments to optimize the sound based on the speakers' capabilities and placement. These adjustments vary by processor, so refer to your processor's manual for instructions specific to your equipment. Set your main, center, and surround settings to "SMALL", with subwoofer "ON". Set the volume control to its centered position and use the processor's level adjustments to balance the system. You may then use the remote control of the subwoofer to quickly fine-tune the subwoofer level for different program material.

With no surround processor:

When using a source component that does not have a dedicated subwoofer output you must use the crossover frequency adjustment of the subwoofer to match the low frequency capability of your main speakers. Determine the final settings by ear

speakers to determine the best setting to use as a starting point for this control. You should start from the low frequency limit of your main speakers. For most small satellite-speakers typical of home theater systems, this will be between 65 – 100Hz. Refer to the specifications of your main

Room characteristics are very strong in this frequency range, so don't be surprised if the final settings you like are far from the starting point.

Use the volume control to balance the system.

Listen to a variety of program material with good bass to fine-tune the various settings. In a properly set up system the bass should be smooth and clear, but from the listening position it should sound as if it is coming from the main speakers, not from a separate subwoofer. If this is not the case, your subwoofer may be too loud, or the crossover frequency may be set too high.

If you have a large room, or desire very high sound pressure levels, setting the **-3dB switch** to 35 Hz will still provide good deep bass, but will allow greater overall output.

#### Normal Use:

Afterwards, if you find you want more or less bass output from your system, either adjust any available tone controls on your receiver or adjust the volume control on the subwoofer.

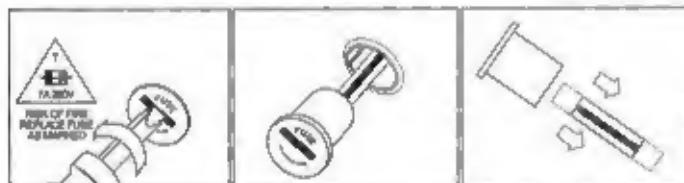
We hope you enjoy the new sonic dimensions your Newton Series powered subwoofer reveals to you!

#### Fuse Replacement

The fuse holder is located on the base of the subwoofer. The P205 uses a metric 5X20mm size fuse, 3.5A.

To replace the fuse:

- 1) Unplug the AC cord from the AC power source, then remove the AC power cord from the speaker.
- 2) Remove the fuse cap with a small, flat blade screwdriver (see first and second diagram).
- 3) Replace the fuse inside the fuse cap with another metric 5X20mm size fuse, 3.5A (see third diagram).
- 4) Replace the fuse and cap in the subwoofer.
- 5) Restore the sub to an upright position.
- 6) Connect the AC power cord first to the subwoofer and then to the power source.



*Fuse Replacement*